This document has been approved for public release and sale; its distribution is unlimited.

AD 696 791

TECHNICAL REPORT 70-1

BIBLIOGRAPHY OF TECHNICAL PUBLICATIONS AND PAPERS

July 1968 - June 1969

Reports Control Symbol: XRE-ST-1

August 1969

U. S. ARMY NATICK LABORATORIES Natick, Massachusetts 01760 This document has been approved for public release and sale; its distribution is unlimited.

AD

TECHNICAL REPORT 70-1

BIBLIOGRAPHY OF TECHNICAL PUBLICATIONS AND PAPERS

July 1968 - June 1969

Reports Control Symbol: XRE-ST-1

August 1969

U. S. ARMY NATICK LABORATORIES Natick, Massachusetts 01760

FOREWORD

This bibliography is a list of technical publications and papers by personnel of the U. S. Army Natick Laboratories and its contractors for the period July 1968 through June 1969.

Reprints of journal articles, in some cases, are available from the individual authors. Copies of technical reports may be obtained from (1) the Defense Documentation Center, Cameron Station, Alexandria, Virginia 22314, or (2) the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. The "AD" number should be cited when ordering copies of reports. Those reports marked with an asterisk (*) are not available for distribution outside the agencies of the Department of Defense.

Contents

	Page
Commanding General	1
Deputy Commander	2
Office of Scientific Director	3
Quality Assurance Office	5
Technical Plans Office	é
Airdrop Engineering Laboratory	7
Clothing and Personal Life Support Equipment Laboratory	10
Earth Sciences Laboratory	16
Food Laboratory	19
General Equipment and Packaging Laboratory	31
Pioneering Research Laboratory	36
Index to authors	46

ABSTRACT

A bibliographic listing of technical publications and papers by the personnel of the U. S. Army Natick Laboratories and its contractors for the period July 1968 through June 1969.

U. S. ARMY NATICK LABORATORIES

COMMANDING GENERAL

- GERACE, F. J. The generation gap. Veterans of Foreign Wars, Boston, Mass., 26 October 1968.
- 2. Management of logistics at the Army field level.

 New England Chapter, Society of Logistics Engineers, Bedford,
 Mass., 6 March 1969.
- Management of Natick Laboratories. Armed Forces
 Management Association, Bedford, Mass., 24 October 1968;
 Kiwanis Club, Sudbury, Mass., 18 February 1969.
- Natick Laboratories support to Southeast Asia.

 Northwest Chapter, Defense Supply Association, Seattle, Wash.,

 3 December 1968; Northern California Chapter, DSA, San Francisco,
 Calif., 5 December 1968.
- 5. Remarks. Natick Laboratories Women's Club, Natick, Mass., 11 September 1968.
- Remarks. Dedication Ceremonies, U. S. Army Research Institute of Enviornmental Medicine, Natick, Mass., 17 October 1968.
- 7. Remarks. Veterans Day Observance, Natick, Mass., 11 November 1968.
- 8. Remarks. Research and Development Associates, West Point, N. Y., 23 April 1969.
- 9. Remarks. Industry Day, U. S. Army Natick Laboratories, Natick, Mass., 24 June 1969.
- Research and engineering problems. Subsistence
 Seminar, Defense Supply Association, Chicago, Ill., 23 October
 1968.

DEPUTY COMM LADER

- 11. JAMES, H. Korea. Trowel Club, Framingham, Mass., 7 November 1968; Union Lodge AF & AM, Dorchester, Mass., 14 January 1969.
- 12. Remarks. Military-Industry Conference, Research and Development Associates, Natick, Mass., 29 October 1968.
- Remarks. U. S. Army Natick Laboratories. Northeastern Chapter, Defense Supply .ssociation, Bedford, Mass., 14 November 1968.
- Remarks. Technical Committee Test and Evaluation
 Briefing NLABS Test Program Interchange, Natick, Nass.,
 10 April 1969.
- 15. Remarks. Equipment Management Workshop (Laboratories),
 Boston, Mass., 22 April 1969.
- 16. Support of the soldier in the Tield. Army Materiel Command-Army Ordnance Association Laboratory Symposium, Pasadena, Calif., 23 January 1969.
- 17. U. S. Army Natick Laboratories Mission. First Congregational Church, Natick, Mass., 8 December 1968.

OFFICE OF SCIENTIFIC DIRECTOR

Technical Reports

- 18. OESTERLING, J. F. U. S. Army Natick Laboratories equipment utilization study and management concepts and operating procedures. 69-52-OSD, December 1968 (AD 681882).
- 19. ROSS, E. W., JR. Analysis of a parachute with a pulled-down vent. 69-71-OSD, February 1969 (AD 687307).
- 20. Approximate analysis of a flat, circular parachute in steady descent. 69-51-0SD, December 1968.
- 21. Large deflections of an inflated cylindrical tent, 69-11-05D, July 1968 (AD 673714).

Journal Articles

22. ROSS, E. W., JR. On inextensional vibrations of thin shells.

J. Appl. Mechanics, Trans. Am. Soc. Mech. Eng. (ASME), Series E, 35(3):516-523 (1968).

- 23. FLANAGAN, J. H. Seminar objective and background. Seminar on U. S. Army Natick Laboratories Role in Defense Operations, Natick, Mass., 17 April 1969.
- 24. Specifications Is the end in sight? Military-Industry Conference, Research and Development Associates, Natick, Mass., 29 October 1968.
- 25. Technical program management at NLABS. Babson Institute Science Seminar, Natick, Mass., 6 May 1969.
- 26. OESTERLING, J. F. C. W. protective clothing. Chemical-Biological Division, American Ordnance Association, Port Hueneme, Calif., 24 October 1968.

OFFICE OF SCIENTIFIC DIRECTOR

- 27. OESTERLING, J. F. Helping the GI by counteracting natural and manmade environmental hazards. Framingham Rotary Club, Framingham, Mass., 25 November 1968.
- 28. How the natural sciences fit into research.

 Regis College, Weston, Mass., 24 March 1969.
- 29. ROSS, E. W., JR. Approximate analysis of a flat circular parachute in steady descent. Army Mathematicians Conference, St. Louis, Mo., Il-12 June 1969.
- 30. SIELING, D. H. Thoughts for food. Institute of food Technologists, Santa Ana, Calif., 21 November 1968.

QUALITY ASSURANCE OFFICE

Technical Papers

31. LEVELL, E. F. Value engineering in the textile and clothing industries. Textile and Needle Trades Division, American Society for Quality Control, Charlotte, N. C., 13-14 February 1959.

TECHNICAL PLANS OFFICE

Technical Reports

32. Bibliography of technical publications and papers: July 1967 - June 1968, U. S. Army Natick Laboratories. 69-1, July 1968 (AD 676826).

Journal Articles

- 33. DUNGAN, A. L. The SPEED system after a year of exploratory development. Activities Report, 20(2):148-155 (Fall, 1968); Microwave Energy Applications Newsletter, 2(1):7-12 (1969).
- 34. and M. FOX. The SPEED microwave oven in integrated cooking. J. Microwave Power, 4(2):41 (1969).

Other Publications

- 35. DUNGAN, A. L. The present Army field feeding system. In Minutes of Meeting, Committee on Food Service Equipment, Advisory Board on Military Personnel Supplies, Division of Engineering, 21-22 January 1969, National Academy of Sciences National Research Council, Washington, D. C. (1969).
- 36. ROEPCKE, L. A., W. RAFERT, and R. P. BENEDICT. Army Materiel Command Planning-Principles and Philosophy. In Institute of Electrical and Electronics Engineers (IEEE) Trans. on Engineering Management, EM-15(4):150-178 (December 1968).

AIRDROP ENGINEERING LABORATORY

Technical Leports

- 37. ALTGELT, R. E. Low attitude airdrop system for personnel.

 Goodyear Aerospace Corp., Contract No. DAAG17-67-C-0204.
 69-68-AD, May 1969 (AD 852090).*
- 38. ANTKOWIAK, H. E. Airdrop impact capability of the Redeye missile unipak container. 69-72-AD, March 1969 (AD 853098).*
- 39. CRILEY, R. L., and I. R. SHITH. Design, development, test, and fabrication of cargo parachute release assembly, 12,000-lb capacity. Frost Engineering Development Corp., Contract No. DAAG17-67-C-0197. 69-56-AD, December 1968 (AD 683211).
- 40. GIONFRIDDO, M. P. Two-body trajectory analysis of a parachute-cargo airdrop system. 69-80-AD, April 1969 (AD 690808).
- 41. FALCONE, J. F. Modular honeycomb concept for preparation of loads for delivery by airdrop. 69-63-AD, May 1969 (AD 688582).
- 42. MARSHNER, R. L., A. G. PATTERSON, R. B. YOUNG, and W. A. FRIEND.
 Ground slide airdrop study (Phase I). Aircraft Armaments, Inc.,
 Contract No. DA19-129-AMC-337(N). 69-14-AD, January 1965.
 (AD 672079).
- 43. MILLS, R. R., JR., R. S. PAYNE, JR., J. L. CRITCHER, and M. V. RUNKLES. Parachute reel-out, reel-in, low altitude airdrop. Aircraft Armaments, Inc., Contract No. DA19-129-AMC-847(N), Final .eport. 69-13-AD, August 1966 (AD 672081).
- 44. OATES, R. W. Low altitude airdrop of personnel. Stencel Aero Engineering Corp., Contract No. DAAG17-67-C-0205. 69-53-AD, October 1968 (AD 851410).
- opening of aerodynamics decelerators. Stencel Aero Engineering Corp., Contract No. DA19-129-AMC-851(N). 59-5-AD, November 1966.
- 46. RIPPERGER, E. A., and G. L. HANNON. The effect of moisture content on the energy dissipating characteristics of paper honeycomb. University of Texas, Contract No. DAAG17-67-C-0189. 69-67-AD, January 1969 (AD 687338).
- 47. SHOPALOVICH, P. Engineer design test of airdrop platform extraction for a transfer coupling system. 69-10-AD, June 1968 (AD 837449).*

AIRDROP ENGINEERING LABORATORY

Technical Reports (continued)

- 48. VICKERY, E. D. Elevation of recovery parachutes Low altitude air-drop. Pioneer Parachute Co., Inc., Contract No. DA19-129-AMC-849(N), Final Report. 69-12-AD, August 1966.
- 49. WIBLE, R. C., and J. E. FOSTER. Ground slide airdrop study Addendum (Phase I). Aircraft Armaments, Inc., Contract No. DA19-129-AMC-337(N). 69-15-AD, August 1966 (AD 672079).

- 50. BENNETT, J. G. Airdrop developments of the Airdrop Engineering Laboratory, U. S. Army Natick Laboratories. The 76'ers, Boston, Mass., 21 March 1969.
- 51. Airdrop Engineering Laboratory's major programs, support to SEA and operational problems. U. S. Army Materiel Command, Washington, D. C., 1 April 1969.
- Review of life support equipment. U. S. Continental Army Command, Washington, D. C., 23 October 1968.
- 53. BROWN, E. J. Army platform developments. Joint Technical Coordinating Group (JTCG) Meeting for Airdrop, Orlando, Fla., 15-16 January 1969; Wright-Patterson Air Force Base, Dayton, O., 15-16 April 1969.
- 54. CHAKOIAN, G. A parachute retrorocket system for low altitude airdrop of cargo and other special applications. Aerodynamic Deceleration Systems Conference, American Institute of Aeronautics and Astronautics (AIAA), El Centro, Calif., 24 September 1968.
- 55. DeSANTIS, G., and T. F. GOODRICK. Wake survey of powered and unpowered C-5A aircraft models. Aerodynamic Decelerator Systems Conference, El Centro, Calif., 23 September 1968.
- 56. FALABELLA, G. A report on U. S. Army airdrop research and development activities. Air Standardization Coordinating Committee Meeting, Working Party 44, Wellington, New Zealand, 13-22 November 1968.

AIRDROP ENGINEERING LABORATORY

Technical Papers (continued)

- 57. FALABELLA, G. Summary of current U. S. Army airdrop developments.
 Royal New Zealand Air Force, Auckland, N. Z., 25-26 November 1968.
- 58. MACEK, P. J. Airdrop engineering equipment low altitude airdrop systems for supplies and equipment. Small Business Industry, Natick, Mass., 15 October 1968.
- Progress report on the U. S. Army development of aerial delivery systems, Sub Group E. Joint Technical Co-ordinating Group for Airdrop, El Centro, Calif., 26 September 1968; Wright-Patterson Air Force Base, Dayton, 0., 15-16 April 1969.

Other Publications

60. JUDGE, T. H. Evaluation of a 5-gallon capacity air droppable container. Technical Memorandum No. 69-1 (January 1969).*

Technical Reports

- 61. ANDREWS, R. D. Cold drawing in crystalline polymers. Stevens Institute of Technology, Contract No. DA19-129-AMC-1001(N). 69-42-CE (C&PLSEL-57), October 1968 (AD 687339).
- 62. BARRON, E. R., A. L. ALESI, and A. F. PARK. Body armor for aircrewmen. 69-43-CE (C&ED-50), January 1969 (AD 688122),
- 63. COHEN, G. Tan-O-Quil-QN treatment for feathers and down. 69-37-CM (TS-159), August 1968 (AD 678571).
- 64. DONNELLY, R. Development of a fire-resistant and rain-protective fabric. Prodesco, Inc., Contract No. DAAG17-67-C-0181. 69-62-CE (TS-161), December 1968 (AD 849491).*
- 65. DUSABLON, L. V., and L. R. McMANUS. Development of a microclimate-controlled tanker's suit and manifold system for the M60Al tank. 69-60-CE (C&PLSEL-61), December 1968 (AD 855848).*
- F. VOTTA, JR., N. S. SCHNEIDER, and L. A. SPANO.

 Passive thermal control systems for advanced space suit concepts.
 69-25-CE (C&OM-54), November 1968.
- 67. FOURT, L., and N. R. S. HOLLIES. The comfort and function of clothing. Harris Research Laboratories, Contract No. DAAG17-67-C-0139. 69-74-CE (TS-162), June 1969.
- 68. GATLIN, C. I., J. L. SCHAMADAN, E. R. BARRON, and S. TANENHOLTZ.

 A study of forces caused by head impact on aircrew personnel
 armor under simulated crash conditions. Dynamic Science Corp.,
 Contract No. DAAG17-67-C-0138. 69-49-CE (C&PLSEL-59), November
 1968 (AD 685838).
- 69. HENRY, M. C., and B. C. PANT. Organolead chemistry synthesis and applications. 69-77-CE (C&PLSEL-64), May 1969 (AD 691725).
- 70. IACONO, V. D., JR. Protective clothing and life support equipment for explosive ordnance disposal personnel. 69-48-CE (C&PLSEL-58), November 1968 (AD 682730).

Technical Reports (continued)

- 71. LAMBER, C. F., M. BURNS, and E. R. BARRON. Design, development and fabrication of a simplified titanium/nylon armored west.

 IIT Research Institute, Contract No. DAAG17-67-C-0079, 69-70-CE (CEPLSEL-63), April 1969 (AD 855632).*
- 72. LARSON, R. E., L. W. RUST, A. R. KYDD, and G. A. GAUVIN. Investigation of heat and mass (water vapor and liquid) movement through clothing systems. Litton Systems, Inc., Contract No. DA19-123-AMC-683(N). 69-31-CM (C6OM-56), September 1968 (AD 691144).
- 73. LASTNIK, A. L. Factors influencing the impact energy attenuation capabilities of the U. S. Army flyer's protective helmet (AFH-1). 69-21-CM (C&ED-48), July 1968 (AD 677119).
- 74. McARTHUR, L. F., F. W. FELDMANN, and R. S. HILL. Integrated helmet for thermalibrium ensemble. ILC Industries, Inc., Contract No. DAAG-67-C-0220. 69-81-CE (CEPLSEL-65), May 1969.
- 75. OLSEN, H. W., and W. F. SILVA. Development of an electrically heated glove. Uniroyal, Inc., Contract No. DAAG17-67-C-0180. 69-33-CM (C&ED-49), July 1968 (AD 843080).*
- 76. PARK, A. F., and D. S. SWAIN. Blast protective footwear. 69-47-CE (F&L-21), January 1969 (AD 854826).*
- 77. PARK, J. D., and J. R. LACHER. The synthesis of special fluorine-containing monomers. University of Colorado, Contract No. DA19-129-AMC-869(N). 69-17-CM (C&OM-51), July 1968 (AD 684923).
- 78. POOLEY, R. W., A. D. SHAW, Ili, and C. S. ROHS. Lightweight insulated footwear. Uniroyal, Inc., Contract No. DA19-129-AMC-959(N). 69-16-CM (C&OM-52), July 1968 (AD 846543).*
- 79. POPE, C. J., and S. J. WERKOWSKI. Reliability of some critical performance characteristics of cotton duck fabric. 69-30-CM (TS-158), September 1968 (AD 677385).

Technical Reports (continued)

- 80. POWELL, A. S., R. W. EHLERS, and S. A. ORROTH, JR. A study of hot-stretching transparent plastics. Lowell Technological Institute Research Foundation, Contract No. DA19-129-AMC-844(N). 69-19-CM (C&C'4-53), July 1968 (AD 677384).
- 81. RODZEN, R. A., C. F. LAMBER, F. C. SCRIBANO, and M. BURNS. Construction of ballistic material samples for aircrew armor systems. IIT Research Institute, Contract No. DA19-129-AMC-641(N). 69-61-CE (C&PLSEL-62), January 1969 (AD 691739).
- 82. SPANO, L. A. Microclimate-controlled (thermalibrium) protective clothing system for military applications. 69-58-CE (CEPLSEL-60), November 1968 (AD 682715).
- 83. STAPLER, J. T., W. J. BARNES, and W. E. C. YELLAND. Thermal degradation of polyvinylidene fluoride and polyvinyl fluoride by oven pyrolysis. 69-7-CM (C&OM-50), July 1968 (AD 672509).
- 84. WALDRON, E. T. The effectiveness of a nimbus fabric in attenuating thermal radiation. 69-39-CM (TS-160), September 1968 (AD 501922).*
- 85. ZEMLIN, J. C. A study of the mechanical behavior of spider silks. Collaborative Research, Inc., Contract No. DAAG17-C-0135. 69-29-CM (C&OM-55), September 1968 (AD 684333).

Journal Articles

- 86. KENNEDY, S. J. Advances in clotning and textiles through Army research and development. Review, 48(6):41 (1969).
- 87. LASTNIK, A. L. Factors influencing the impact energy attenuation capabilities of the U. S. Army flyer's protective helmet (AFH-1). Safety Engineering (SAFE), Survival and Flight Equipment Association J., (January-February 1969).

Journal Articles (continued)

- 88. MILES. T. D., and A. C. DELASANTA. A laboratory study of flameretardant textiles produced by an ionizing radiation cure. Textile Research J., 39(4):357-362 (1969).
- 89. PANT, B. C., W. DAVIDSOHN, and M. C. HENRY. Acetylenic derivatives of lead. J. Organometal. Chem., 16:413-417 (1969).
- 90. W. DAVIDSOHN, and M. C. HENRY. Reactions of diphenyllead oxide. Synthesis of diphenyllead diacylates. J. Organic Prep. and Proc., 1(1):29-32 (1969).
- 91. RAMSLEY, A. O. Infrared fluorescence of dyes. American Dyestuff Reporter, pp. 611-615 (August 1968).
- 92. REIFF, H., B. R. LALIBERTE, W. DAVIDSOHN, and M. C. HENRY. The cleavage of tin-oxygen and tin-sulfur bonds by organolithium reagents. J. Organometal. Chem., 15:247-250 (1958).
- 93. SIEBERT, W., W. DAVIDSOHN, and M. C. HENRY. Organometallic acetylene chemistry. III. Disubstituted acetylenes of the type Ph₂≡ CMR₃.

 J. Organometal. Chem., 15:69-75 (1968).
- 94. , W. DAVIDSOHN, and M. C. HENRY. Organometallic acetylene chemistry. IV. Disubstituted acetylenes of the type PhP (C≡ CMR₃)₂ and P(C≡ CMR₃)₃. J. Organometal. Chem., 17:65-70 (1969).
- 95. VITTIMBERGA, B. M., M. L. HERZ, and E. C. WINSLOW. The thermal stability of the polyester of poly (4-Vinylphthalic acid). J. Polymer Sci., Part A-1, 7(2):779 (1969).
- 96. VOTTA, F., JR., and L. SPANO. Experimental study of a passive thermal control system for space suits. Aerospace Medicine, pp. 372-378 (April 1969).
- 97. WALDRON, E. T. The effect of textile finishes on thermal protection. Textile Chem. and Colorist, 1:5 (1969).

- 98. HERZ, M. L., and B. M. VITTIMBERGA. The alumina-catalyzed condensation of 9-carbozolyacetalehyde. Northeast Regional Meeting, American Chemical Society, Boston, Mass., October 1968.
- 99. IACONO, V. D., JR. Protective clothing and life support equipment for explosive ordnance disposal personnel. Survival and Flight Equipment Symposium, Sar. Diego, Calif., 1-3 October 1968.
- 100. KENNEDY, S. J. Advances in clothing and textiles through Army research and development. Defense Supply Association, Chicago, Ill., 21 October 1968.
- Clothing and equipment support to our troops in Vietnam. Industry Day, U. S. Army Natick Laboratories, Natick, Mass., 24 June 1969.
- 102. The consumer's challenge to quality. Defense Contract Administration Services Region Clothing and Textile Quality Seminar, Philadelphia, Pa., 10 October 1968.
- The specifications for clothing and textiles as related to the requirements of the user. Seminar on U. S. Army Natick Laboratories Role in Defense Operations, Natick, Mass., 17 April 1969.
- 104. McQUADE, A. J. Flame-retardant materials for military use. Flame-Retardant Cotton Batting Workshop, U. S. Department of Agriculture, New Orleans, La., 15 November 1968.
- Transport of water through fabric systems for combat clothing. New England Regional Meeting, American Association of Textile Chemists and Colorists, Provincetown, Mass., 2 May 1969.
- 106. RIZZO, F. J. Textiles save lives in Vietnam. Industry Day, U. S. Army Laboratories, Natick, Mass., 24 June 1969.

- 107. SNELL, E. W., N. S. SCHNEIDER, L. V. DUSABLON, R. A. PROSSER, and L. A. SPANO. Water vapor transport in structurally varied polyurethanes. Division of Polymer Chemistry, American Chemical Society, Atlantic City, N. J., September 1968.
- 108. SPANO, L. A. Microclimate-controlled (thermalibrium) protective clothing system for military applications. Survival and Flight Equipment Symposium, San Diego, Calif., 1-3 October 1968; Conference on Portable Life Support Systems, NASA, Ames Research Center, Moffett Field, Calif., 30 April-2 May 1969.
- 109. WEINER, L. I. Wear resistance of cotton textiles. First International Cotton Research Symposium, Paris, France, 25 April 1969.

EARTH SCIENCES LABORATORY

Technical Reports

- 110. BINGHAM, E. Environmental conditions relating to harmful insects of Mainland Southeast Asia. 69-28-ES (ES-40), October 1968 (AD 682733).
- 111. FEGLEY, R. S. Clothing almanac for Southwest Asia. 69-6-ES (ES-39), July 1968 (AD 682729).
- 112. HOWE, G. M., L. J. REED, J. T. BALL, G. E. FISHER, and G. B. LASSOW. Classification of world desert areas. The Travelers Research Center, Inc., Contract No. DA19-129-AMC-1068(N). 69-38-ES (ES-44), December 1968 (AD 683603).
- 113. PAYLORE, P. Arid-lands Research Institutions: A world directory, first supplement, 1968. University of Arizona, Contract No. DAAG17-67-C-0199. 69-23-ES (ES-42), October 1968 (AD 678638).
- A cumulated subject index to chapters I-IX of an inventory of geographical research on desert environments.
 University of Arizona, Contract No. DAAG17-67-C-G199.
 69-66-ES (ES-45), March 1969.
- 115. SHARON, D. The distribution of the longest temperature-duration in a month. 99-35-ES (ES-43), December 1968 (AD 685827).
- 116. THOMPSON, W. F. A military evaluation of portions of the St. Elias and Wrangell Mountains, Alaska, with comments on suggestions to the Army by the Arctic Institute of North America. 69-24-ES (ES-41), September 1968 (AD 844407).
- Physical geography and military environment in a transect of the Utah and Colorado Rockies. 69-73-ES (ES-46), May 1969.
- 118. TRAVIS, B. V., H. H. LEE, and R. M. LABADAN. Arthropods of medical importance in America North of Mexico. Cornell University, Contract No. DA19-129-AMC-644(N). 69-2-ES (ES-47), January 1969.

EARTH SCIENCES LABORATORY

Technical Reports (continued)

119. WESTBROOK, J. H. Relationship of hourly durations to the daily maximum temperature. 69-87-ES (ES-48), June 1969.

Journal Articles

- 120. ROBISON, W. C. Natick Larth Sciences Laboratory reports Southeast Asia environmental research. Army R&D Newsmagazine, 10(3):32-33 (1969).
- 121. THOMPSON, W. F. New observations on Alpine accordances in the Western United States. Ann. Assoc. Am. Geographers, 58(4): 650-669 (1968).

Technical Papers

- 122. ANSTEY, R. L. Determination of landform characteristics in Western Germany. Army Materiel Systems Analysis Agency Colloquium, Aberdeen Proving Ground, Md., 5 December 1968.
- 123. Field measurement of environmental elements. Environmental Working Group, D-5 Panel, TTCP, London, England, 5 November 1968.
- 124. DALRYMPLE, P. C. Macro-climate and heat balance. American Association for the Advancement of Science, Dallas, Tex., 26-31 December 1968.
- 125. NIEDRINGHAUS, T. E. Climatic regions of Michigan. Michigan Academy of Sciences, Arts and Letters, Ann Arbor, Mich., 27 March 1969.

Books

126. MAY, J. M. The ecology of malnutrition in French-speaking countries of West Africa and Madagascar. Studies in Medical Geography, Vol. 8, Contract No. DA19-129-AMC-772(N), Hafner Publishing Co., New York, N. Y. (1968).

EARTH SCIENCES LABORATORY

Books (continued)

127. McGINNIES, W. G., B. J. GOLDMAN, and P. PAYLORE. Deserts of the World: An appraisal of research into their physical and biological environments. University of Arizona, Contract No. DA49-092-ARO-71, University of Arizona Press, Tucson, Ariz. (1968).

Book Review

128. ROBISON, W. C. The vegetation of Poland, W. Szafer (edit.).
In Geographical Review, 58(3):504-505 (July 1968).

Other Publications

129. HEALEY, J. R. Inventory of research on desert regional types. University of Arizona, Contract No. DA49-092-ARO-71, Tucson, Ariz. (1968).

Technical Reports

- 130. BROWN, T. E. Spectral light requirements of algae. Charles I.

 Kettering Research Laboratory, Contract No. FAIS-129-AEC-565(N).

 69-45-FL (FL-82), October 1-68 (AD 660972).
- 131. DYESLA, ... A., G. S. STEENSAND, and H. A. HOLLENDER. Nutrient-defined formula diets for aerospace metabolic experimentation. U. S. Air Force School of Aerospace Medicine, Brooks Air Force Base, SAM-TR-68-20, April 1968.
- 132. GARDNER, B. W., JR. Evaluation of canned meats in the civilian market for military use. 69-4-FL (FL-69), July 1968 (AD 675472).
- 133. GORFIEN, H., K. R. JOHNSON, and E. E. ANDERSON. Effect of Badran process on storage life of lettuce. 69-46-FL (FL-86), November 1958.*
- 134. HOLLIS, F., JR. Development of moisture binding mimetic agents. General Foods Corporation, Contract No. DAAG17-67-C-0055. 69-50-FL (FL-81), March 1969 (AD 685828).
- i35.

 M. KAPLCW, R. KLOSE, and J. HALIK. Parameters for moisture content for stabilization of food products. General Foods Corporation, Contract No. DAAG17-67-C-0098. 59-26-FL (FL-77), August 1968 (AD 675473).
- 136. KAUFFMAN, F. L., and J. W. HARLAN. Effect of low temperature irradiation on chemical and sensory characteristics of beef steaks. Swift and Company, Contract No. DA19-129-AMC-164(N), 69-64-FL (FL-76), March 1969 (AD 687340).
- 137. LAINE, N. Interrelationships between storage stability and moisture sorption properties of dehydrated foods. Melpar, Inc., Contract No. DA19-129-AMC-252(N), 68-62-FL (FL-75), May 1968 (AD 671679).
- 138. LUYET, B. J. Investigations on freezing and freeze-drying of selected fruits and vegetables. American Foundation for Biological Research, Contract No. DA19-129-AMC-81(N), 69-8-FL (FL-74), July 1968 (AD 673862).

Technical Reports (continued)

- 139. MANDELS, H., J. JEFFERS, and H. M. EL-BISI. Growth of plant cell cultures. II. Nutrient requirements and their role in the growth of suspension cultures. 69-36-FL (FL-83), October 1968 (AD 680235).
- 140. , R. MATTHERN, and H. H. EL-BISI. Growth of plant cell cultures. III. Growth kinetics and mass culture. 69-22-FL (FL-70), September 1908 (AD 684610).
- 141. PAVEY, R. L. Fabrication of food bars based on compression and colding matrices. Swift and Company, Contract No. DAAG17-67-C-0068. 69-69-FL (FL-88), February 1959 (AD 688720).
- 142. PAYNE, G. O., JR., C. J. SPIEGL, and F. E. LONG. Study of extractable substances and microbial penetration of polymeric packaging materials to develop flexible plastic containers for radiation sterilized foods. Continental Can Company, Inc., Contract No. DA19-129-ANC-162(N). 69-57-FL (FL-65), January 1959 (AD 685631).
- 143. TUOHY, J. M., and L. C. HINNERGARDT. Effect of headspace oxygen on the quality of freeze-dried raw beef patties. 69-54-FL (FL-87), November 1968 (AD 681883).
- 144. L. C. HINNERGARDT, and R. L. HELMER. Effect of headspace oxygen on the quality of freeze-dried beef and chicken stew. (8-65-FL (FL-78), May 1968 (AD 671628).
- ing conditions on cooked, freeze-dried spagnetti with meat sauce. 69-55-FL (FL-85), January 1969 (AD 681884).
- 146. WATERS, M. E., and M. H. THOMPSON. Development of radiationsterilized fish products. U. S. Department of the Interior, Bureau of Commercial Fisheries, 69-65-FL (FL-79), April 1969 (AD 688123).

YAST TROOP, TOOR

Journal Articles

- 147. ANELLIS, A., and S. J. WERKOWSKI. Estimation of radiation resistance values of microorganisms in food products. Appl. Hicrobiol., 16(9).1300-1308 (1958).
- 148. JOSEPHSON, E. S., and F. HEILIGMAN. U. S. Army program. Food Irradiation Quarterly International Newsletter, Saclay, France, 8(3):36-43 (1969).
- 149. KENYON, E. H. Historical perspective microwave applications.
 J. Hicrowave Power, 4:1 (1969).
- 150. Hicrowaves are out of this world. Hicrowave Energy Applications Newsletter, 1(6):10 (1968).
- 151. Report of annual meeting Microwave Power Institute. Food Technol., 22(11):1370 (1968).
- 152. KLICKA, M. V., P. A. LACHANCE, and H. A. HOLLENDER. Space feeding. Activities Report, 20(1):53-72 (1968).
- 153. MABROUK, A. F., E. M. O'CONNOR, and J. K. JARBOE. Nonaqueous beef flavor components: Composition of petroleum ether extractable intramuscular polar lipids. J. Agr. Food Chem., 17(1):10-14 (1969).
- 154.

 , J. K. JARBOE, and E. M. O'CONNOR. Water-soluble flavor precursors of beef. Extraction and fractionation.

 J. Agr. Food Chem., 17(1):5-9 (1969).
- 155. MENDELSOHN, J. M., L. J. RONSIVALLI, F. J. KING, J. H. CARSON, R. J. LEARSON, B. W. SPRACKLIN, and E. M. KENYON. Opening oysters and other bivalves using microwave energy. Fisheries Industrial Research, 4:7 (1969).
- 156. SINNHUBER, R. O., M. K. LANDERS, T. C. YU, M. SIMON, and F. HELLIGMAN. Radiation sterilization of prefried cod and halibut patties. Food Technol., 22(12):1570-1572 (1968).
- 157. TUOMY, J. M., H. T. SCHLUP, and R. L. HELMER. Effect of cooking temperature and time on the tenderness of precooked freeze-dried turkey white meat. Food Technol., 23(3):334-336 (1959).

- 158. ANELLIS, A. Radiation resistance of C. botulinum in foods. Interagency Botulism Research Coordinating Committee, U. S. Army Natick Laboratories, Natick, Mass., 5-6 June 1959.
- types A and B. U.S.-Japan Conference on Toxic Microorganisms.

 Honolulu, Hawaii, 7-10 October 1968.
- 160. BAKER, L. J. Radiation processing of foods. Foods and Nutrition Class, Simmons College, Boston, Mass., 8 October 1968.
- 161. BROCKHANN, M. C. Compaction of foods. Research and Development Associates, West Point, N. Y., 22-24 April 1969.
- 162. Compression as applied to bite size and rehydratable foods. American Chemical Society, Atlantic City, N. J., 8-13 September 1968.
- 163. DRIVER, M. G., J. G. KAPSALIS, and B. W. GARDNER, JR. Color quality of canned tuna as determined by reflectance methods. Institute of Food Technologists, Chicago, Ill., 11-15 May 1969.
- 164. EL-BISI, K. M. On the contemporary scientific revolution.
 National Science Teachers Association, Natick, Mass.,
 14 April 1969.
- 165. FRUIN, J. T. Specifications for subsistence. Walter Reed Medical Center, Washington, D. C., 6 May 1969.
- 166. GHOSE, T. K. Continuous saccharification of cellulose with culture filtrates of trichoderma viride QM6a. International Formulation Symposium, New Brunswick, N. J., September 1968.
- 167. , and J. A. KOSTICK. Enzymatic saccharification of cellulose in batch and semi-continuous agitated systems. American Chemical Society, Atlantic City, N. J., September 1968.

- 168. HALLIDAY, J. W., R. D. JARRETT, and A. BRYNJOLFSSON. A ferrouscupric dosimeter for routine use in the megarad range. International Conference on Radiation Chemistry, Argonne, Ill., 12-15 August 1968.
- 169. HARRIS, N. E., K. R. JOHNSON, M. V. KLICKA, and D. E. WESTCOTT. New concepts in military feeding systems. National Confectioners' Association, Chicago, Ill., 2 June 15.9.
- 170. HEILIGHAN, F. Development of radiation sterilized fish products. Atlantic Fisheries Conference, St. Johns, Newfoundland, Canada, 16 September 1968.
- 17_. Development of radiation sterilized foods. American Chemical Society, Rumson, N. J., 14 November 1968.
- 172. HOLLENDER, H. A. U. S. Army food R&D program. Aerospace Food Technology Conference, Tampa, Fla., 15-17 April 1969.
- 173. Food technology problems related to space feeding. Committee on Space Research (COSPAR) Plenary Meeting, Prague, Czechoslovakia, 13-14 May 1969.
- 174. , and M. V. KLICKA. Feeding man in space. Working Group on Extraterrestrial Resources, Denver, Colo., 17-18
 June 1969.
- 175. JARRETT, R. D. Dosimetry -- chemical methods, dose distribution in irradiated foods. International Training Course in Food Irradiation Technology and Techniques, Massachusetts Institute of Technology, Cambridge, Mass., 24 June 1969.
- 176. , and J. W. HALLIDAY. The microscopic dose distribution in electron beams using polyvinylchloride. International Conference on Radiation Chemistry, Argonne, Ill., 12-15 August 1968.

- 177. JOSEPHSOK, E. S. Advantages, problems and experience of irradiated foods. Aerospace Food Technology Conference, University of South Florida, Tampa, Fla., 16 April 1969.
- Developments in food irradiation. Connecticut

 Valley Chapter, American Society of Agricultural Engineers,
 Natick, Hass., 10 Harch 1969.
- 179. Food preservation by ionizing radiation and its application to hospital diets. New England Hospital Assembly Seminar, Boston, Mass., 25 March 1969.
- 180. Irradiation and its application to food service present and future. Cornell University, Ithaca, N. Y.,
 18 November 1968.
- 181. Nuclear applications in the food industry. Conference on Environmental Problems and Opportunities, American Industrial Development Council, Miami Beach, Fla., 14 May 1969.
- Radiation preservation of foods. American University, Washington, D. C., 26 November 1968,
- Status of radiation preservation of foods. Inter-American Nuclear Energy Commission, Organization of American States, and the Commission Nacional de Energia Atomica of Uruguay, Nontevideo, Uruguay, 16 December 1968.
- 184. JOSEPHSON, E. S., E. L. JOHNSON, and K. G. SHEA. Current status of preservation of food by ionizing radiation. New England Food and Drug Officials, Boston, Mass., 6 February 1969.
- 185. KAHAN, R. S. Radiation pasteurization of fresh chicken. University of Massachusetts, Amherst, Mass., 7 May 1969.
- 186. KAPSALIS, J. G. The textural qualities of freeze-dried and intermediate moisture foods. Institute of Food Technologists, Chicago, Ill., 11-15 May 1969.

- 187. KAPSALIS, J. G., B. DRAKE, and B. JOHANSSON. Hygroscopic equilibrium and texture in relation to thermodynamics and mechanics in freezedried foods. International Symposium on Sensory Evaluation of Foods, Kungalv, Sweden, 8-12 September 1968.
- 188. KILLORAN, J. J., and J. S. COHEN. Integrity of flexible packages of electron irradiation sterilized food subjected to laboratory and field abuse treatment. Institute of Food Technologists, Chicago, Ill., 14 May 1969.
- 189. KLICKA, M. V. Army rations. Walter Reed Army Institute of Research, Washington D. C., 26 July 1968; 3 March 1969.
- Foods for astronauts. Framingham Newcomer's Group,
 Framingham, Mass., 11 September 1968; I. R. Hardy Prosthetic Conference, Plymouth, Mass., 22 September 1968; Civil Air Patrol, Norfolk County Cadet Squadron, Wellesley, Mass., 13 November 1968; Council of Women and Men's Organizations, New York State Education Department, Albany, N. Y., 6 January 1969; New York Cooperative Extension, 4-H Division, U. S. Department of Agriculture, Herkimer, N. Y., 30 April 1969.
- 191. The development of bite size foods. American Chemical Society, Atlantic City, N. J., 8-13 September 1968.
- Operational rations, current and future. U. S. Army
 Transportation School, Fort Eustis, Va., 27 November 1968; 4 February 1969; 13 May 1969.
- 193. Combat feeding systems. U. S. Army Quartermaster School, Fort Lee, Va., 26 November 1968; 7 May 1969.
- 194. Space feeding. Boy Scout Troop, Framingham, Mass., 9 December 1968; Thayer Academy, Quincy, Mass., 13 January 1969.

- 195. KLICKA, M. V. Space foods. Newton Kiwanis Club, Newton, Mass., 26 December 1968; Cub Scouts, East Natick School, Natick, Mass., 30 January 1969; Park Congregational Church Men's Club, Worcester, Mass., 11 February 1969; Holliston Lions Club, Holliston, Mass., 19 February 1969; Cub Scouts, Westboro Junior High School, Westboro, Wass., 27 February 1969; Spring Seminar, Institute of Nutrition and Food Science, University of Connecticut, Storrs, Conn., 13 March 1969; Northern New England Junior Science and Humanities Symposia, Durham, N. H., 28 March 1969; Women's Dental Society of Massachusetts, Cambridge, Mass., 17 April 1969; Natick Rotary Club, Natick, Mass., 8 April 1969; Ladies Group, Synagogue, Barrington, R. I., 24 April 1969; William McIntosh Chapter, DAR, Needham, Mass., 28 April 1969; State University of New York and New York State Nutrition Council, Valhalla, N. Y., & June 1969; Christian Women's Club, Worcester, Mass., 10 June 1969.
- Building for the future. American Home Economics
 Association, Boston, Mass., 25 June 1969.
- 197. LFE, F. H. Usage of fruit in military feeding. Eastern Massachusetts Fruit Growers Association, Sherborn, Mass., 9 April 1969.
- 198. MANDELS, M. Natick Laboratories program in unconventional food production. Seminar on World Nutrition, Providence, R. I., May 1969.
- 199. and J. WEBER. Production of cellulases for specific purposes. American Chemical Society, Atlantic City, N. J., September 1968.
- 200. MEHRLICH, F. P. Adventures in food science. New York Institute of Food Technologists, New York, N. Y., 16 April 1969.
- 201. Introducing newly developed foods. Industry Day,
 U. S. Army Natick Laboratories, Natick, Mass., 24 June 1969.

- 202. MEHRLICH, F. P. The latest in space feeding. Research and Development Associates, West Point, N. Y., 24 April 1969.
- New horizons in convenience foods. Food Service Hanagement Seminar, Boston University, Boston, Mass., 11 March 1969.
- 204. MULVEY, P., and T. G. MARTIN. Comparative measurement of Re¹⁸⁶+1¹³¹ utilization in rat thyroid. Society of Nuclear Medicine, New Orleans, La., 24 June 1969.
- 205. POBER, Z., L. BRESLOUF, and S. GILBERT. The intestinal phase of gastric secretion and the myenteric plexus. Federation of American Societies of Experimental Biology, Atlantic City, N. J., 18 April 1969.
- 206. PORTER, W. L., A. S. HENICK, J. A. JEFFERS, and L. A. LEVASSEUR. Ultra-viclet spectrophotometry of products of autoxidation of lipid monolayers while on silica gel. American Oil Chemists Society, New York, N. Y., 20-23 October 1968.
- 207. PRELL, P. A. Food in space. Lak-Har-Tra Club, Natick, Mass. 10 April 1969.
- 208. RAHMAN, A. R. Recent advances in freeze-dried foods. Brown University, Providence, R. I., 5 May 1969.
- 209. Food preservation techniques, U. S. Army Quartermaster School, Fort Lee, Va., 7 May 1969.
- of various additives on the quality of dehydrated carrots. Institute of Food Technologists, Chicago, Ill., 14 May 1969.
- 211. RAUCH, A. C. Review of military specifications. Research and Development Associates, West Point, N. Y., 23 April 1969.
 - 212. RCWLEY, D. B. Combined effect of irradiation and food additives upon germination and postgerminative development of C. botulinum spores. Veterans Administration Hospital, Boston, Mass., July 1968.

- 213. ROWLEY, D. B., B. G. SNYGG, F. FEEHERRY, and E. JONES. Germination of C. botulinum spores in a chemically defined system. Interagency Botulism Research Coordinating Committee, U. S. Army Natick Laboratories, Natick, Mass., 5-6 June 1969.
- 214.

 H. M. EL-BISI, A. ANELLIS, and C. P. SNYDER. Resistance of Clostridium botulinum spores to ionizing radiation as related to radappertization of foods. U. S. Japan Conference on Toxic Microorganisms, Honolulu, Hawaii, 7-10 October 1968.
- 215. THOMAS, M. H. Microbiological assay techniques employed in nutrition. University of Connecticut, Storrs, Conn., 12 December 1968.
- 216. TUOMY, J. M., and G. C. WALKER. Effects of storage time, moisture level and headspace oxygen on the quality of dehydrated egg mix. Institute of Food Technologists, Chicago, Ill., 11-15 May 1969.
- 217. , and L. C. HINNERGARDT. Development of a penetrometer to predict meat tenderness. Institute of Food Technologists, Chicago, Ill., 11-15 May 1969.
- 218. UMINA, A. P. Research and development in cereal and bakery products for military feeding. U. S. Army Quartermaster School, Fort Lee, Va., 2 October 1968.
- 219. WESTCOTT, D. E. Development of space feeding systems. Acton Rotary Club, Acton, Mass., 12 February 1969.
- New bakery products for military feeding. American Society of Bakery Engineers, Chicago, Ill., 5 March 1969.
- Research and development in cereal and bakery products for military feeding. U. S. Army Quartermaster School, Fort Lee, Va., 3 April 1969.
- 222. WHITE, V. Developments in food research. Atlantic Union College, South Lancaster, Mass., 2 October 1968,

Technical Papers (continued)

- 223. WHITE, V. Army food program. Boston Army Base Peserve Officers, Boston, Mass., 6 January 1969.
- New horizons in institutional foods. Institutional Food Manufacturers Association, Chicago, Ill., 23 May 1969.
- 225. WIERBICKI, E. Products of the Seventies. National Meat Canners Association, Sea Island, Ga., 19 September 1968.
- 226. Army's interest in food irradiation. Conference on Training Technicians for Food Irradiation Plants, University of Connecticut, Storrs, Conn., 9 May 1969.
- 227. Army's radiation preservation of foods program.

 Meat Irradiation Colloquium, University of Nebraska, Lincoln,
 Neb., 16 July 1968.
- 228. F. HEILIGMAN, and L. J. BAKER. Technology of radiation sterilized ham. Institute of Food Technologists, Chicago, Ill., 14 May 1969.

Book Chapters

- 229. BRYNJOLFSSON, A. A significant correction factor in gamma ray dosimetry. In Advances in Chemistry Series 81, Radiation Chemistry-I, American Chemical Society, Washington, D. C. (1968).
- 230. COOPER, R. D., D. M. LINEKIN, and G. L. BROWNELL. Analysis of biological tissue without chemical separation. In Radio-isotopes in Medicine In Vitro Studies, U. S. Atomic Energy Commission, Washington, D. C. (1968).
- 231. JOSEPHSON, E. S. Status of the food irradiation program. In Hearings, 18 and 30 July 1968, before the Subcommittee on Research, Development, and Radiation of the Joint Committee on Atomic Energy, Congress of the United States, Superintendent of Documents, Washington, D. C., pp. 60-82 (1968).

Book Chapters (continued)

- 232. LINEKIN, D. M., J. F. BALCIUS, R. D. COOPER, and G. L. BROWNELL.
 Multi-element analysis of pathological tissue. In Modern
 Trends in Activation Analysis, National Bureau of Standards,
 Washington, D. C. (1968).
- 233. MANDELS, M., and J. WEBER. Production of cellulases for specific purposes. In Advances in Chemistry Series, Cellulases and their Applications, American Chemical Society, Washington, D. C. (1969).
- 234. REESE, E. T., and M. MANDELS. Enzymatic degradation of cellulose.

 In Encyclopedia of Polymer Science and Technology II. Cellulose and Cellulose Derivatives. VII B. Interscience Publishing Company, New York, N. Y. (1969).

Other Publications

- 235. EL-BISI, H. M., and J. J. PREVITE. Potential of irradiation in the control of Salmonellae. Proc. Salmonellae in Foods Conference, pp. 160-179, Pennsylvania State University, University Park, Pa. (1968).
- 236. GERARD, M., F. E. McKINNEY, P. S. BAKER, and E. WIERBICKI (edit.). English Translation of Radiation Processing of Food Products, by L. V. Metlitskii, V. N. Rogachev, and V. G. Krushchev, Oak Ridge National Laboratory, Oak Ridge, Tenn., ORNL-IIC-14 (July 1968).
- 237. HOLLENDER, H. A. Convenience foods the Army way. Proc. International Society of Food Service Consultants, Gainesville, Fla. (1968).
- 238. KLICKA, M. V. Space feeding. Proc. Seminar in Nutrition Science, Syracuse University, Syracuse, N. Y. (June 1967).

GENERAL EQUIPPENT AND PACKAGING LABORATORY

Technical Reports

- 239. DIETZ, A. E., R. B. PROFFITT, R. S. CHABOT, and E. L. MOAK.

 Design manual for ground-mounted air-supported structures
 (single- and double-wall) (Revised). Hayes International
 Corporation, Contract No. DA19-129-AMC-953(N). 69-59-GP,
 January 1969 (AD 690234).
- 240. KANE, R. L., and R. S. SMITH. A forming technique for soldiers titanium helmets. Titanium Metals Corporation of America, Contract No. DA19-129-AMC-940(N). 69-32-GP, July 1968 (AD 680295).
- 241. SEBRING, R. E., M. M. SCHOPPEE, W. D. FPEESTON, JR., and C. J. MONEGO. Test Report: Biaxial tensile tests of coated fabrics. Fabric Research Laboratories, Contract No. DA19-129-AMC-1042(N). 69~75-GP, May 1969 (AD 690840).
- 242. SHITH, R. S., and S. J. WERKOWSKI. Analysis of ballistic performance data of personnel armor materials with the Weibull distribution model. 69-54-62, September 1968 (AD 844276).*
- 243. STINCHFIELD, R. H., and A. R. RAHMAN. Evaluation of allophane V (Kem-Air) in walk-in refrigerators. 69-84-CP, June 1969 (AD 853985).

Journal Articles

- 244. ACREP, J. P. Developments in palletization and containerization. Activities Report, 20(2):112-117 (1968).
- 245. BREYER, J. D., W. M. ROBEY, and K. H. HU. Liquid nitrogen metering system. Cryogenic Engineering News, 3(9):25-26 (1969).
- 246. DECAREAU, R. V. The effect of microwave energy on the nutrients in foods. Microwave Energy Applications Newsletter, 2(2):3-5 (1969).
- 247. Microwave ovens are innocent until proven guilty.

 Microwave Energy Applications Newsletter, 2(3):1-3 (1969).

CENERAL EQUIPMENT AND PACKAGING LABORATORY

Journal Articles (continued)

- 248. DECAREAU, R. V. The microwave oven in hospital food service.
 Hicrowave Energy Applications Newsletter, 2(1):3-6 (1969).
- 249. A touch of melancholy. Microwave Energy Applications Newsletter, 2(1):2 (1969).
- 250. The year in review. Hicrowave Energy Applications Newsletter, 1(6):2 (1968).
- 251. FOX, H. Feeding the action Army. Army Digest, 23(12):30-33 (1968).
- 252. HJ, K. H., J. D. BREYER, and F. FIORI. Gas and water vapor transmission can spoil your product inside foil-laminated pouches. Food Technol., 33(9):1111-1114 (1968).
- 253. LAMPI, R. A. The reliability of flexible packages. Activities Report, 20(2):140-147 (1968); Australian Packaging J. (April 1969).
- 254. F. FIORI, and K. H. dU. Finding flexible-packaging flaws via infrared. Modern Packaging, 42(2):107-111 (1969); Australian Packaging J. (April 1969).
- 255. F. FICRI, and K. H. HU. Infrared safeguards food packages. Barnes Engineering 261S, 6 pp. (10 December 1968).
- 256. F. FIORI, and K. H. HU. Pinpointing flaws in package seals. Plastics World, p. 183 (May 1969).
- 257. MONEGO, C. J., and S. BACKER. Tensile rupture of blended yarns. Textile Research J., pp. 762-766 (July 1988).

GENERAL EQUIPMENT AND PACKAGING LABORATORY

Technical Papers

- . 258. AKREP. J. P. Review of new specifications set in last year.

 American Hanagement Association, New York, N. Y., 27 January
- 259. BUDNICK, M. L. Reporting test results. American Management Association, New York, N. Y., 10 June 1969.
- 260. CAMPBELL, R. J. Food service equipment for feeding military forces. Industry Day, U. S. Army Natick Laboratories, Natick, Hass., 24 June 1969.
- 261. HU, K. H. The removal of oxygen from a package by gas displacement. Institute of Food Technologists, Chicago, Ill., 11 May 1969.
- 262. KILLORAN, J. J., and J. S. COHEN. Integrity of flexible packages of electron irradiation sterilized food subjected to laboratory and field abuse treatment. Institute of Food Technologists, Chicago, Ill., 14 May 1969.
- 263. LAMPI, R. A., F. FIORI, and K. H. HU. The use of an infrared radiometric microscope in the nondestructive determination of flexible package seal defects. Defense Conference on Non-destructive Testing, San Antonio, Tex., 18-20 September 1968; Annual National Packaging Forum, New York, N. Y., 7-9 October 1968.
- 264. NEBESKY, E. A. Developments in military packaging through research.
 Annual Technical Seminar, Show and Competition, Society of Packaging and Handling Engineers, Hartford Conn., 22-24 October 1968.
- Packaging in a changing environment. Advance Packaging Development, Product Protection and Transportation Course,
 General Electric Co., Albany, N. Y., 4-5 February 1969.
- Packaging problems and progress. Institute of Food Technologists Section Meeting, 68-69 Lectureship Program, Dallas, Tex., 13 November 1968; Philadelphia, Pa., 4 April 1969.

GENERAL EQUIPMENT AND PACKAGING LABORATORY

Technical Papers (continued)

- 267. NEBESKY, E. A. Packaging research activities U. S. Army Natick Laboratories. Military Packaging Administration Course, C. W. Post College, Brockville, L. I., N. Y., 25 April 1969.
- 268. O'SULLIVAN, D. J. Shipping hazards recorders Status and future plans. Annual Shock and Vibration Symposium, Monterey, Calif., 22-24 October 1968.
- 269. RUBINATE, F. J. Military packaging. National Flexible Packaging Association, Atlanta, Ga., 9 December 1968.
- 270. Solving military packaging problems. Industry
 Day, U. S. Army Natick Laboratories, Natick, Mass., 24 June
 1969.
- potential of flexible packages for thermoprocessed foods.

 Annual Packaging Forum, New York, N. Y., 7 October 1968.
- 272. SCHULZ, G. L. Sealing technique ignores contaminants. Research and Development Associates, West Point, N. Y., 22 April 1969.
- , and R. L. FLENTGE. Space food package design and material evaluation. American Chemical Society, Atlantic City, N. J., 12 September 1968.

Other Publications

- 274. CAMPBELL, R. J. DoD food service mission. In Minutes of Meeting, Committee on Food Service Equipment, Advisory Board on Military Personnel Supplies, Division of Engineering, 21-22 January 1969, National Academy of Sciences National Research Council, Washington, D. C. (1969).
- 275. DECAREAU, R. V. Garrison QMDO Field feeding QMDO. In Minutes of Meeting, Committee on Food Service Equipment, Advisory Board on Military Personnel Supplies, Division of Engineering, 21-22 January 1969, National Academy of Sciences National Research Council, Washington, D. C. (1969).

GENERAL EQUIPMENT AND PACKAGING LABORATORY

Other Publications (continued)

- 276. DECAREAU, R. V. Proposed exploratory development program. In Hinutes of Meeting, Committee on Food Service Equipment, Advisory Board on Military Personnel Supplies, Division of Engineering, 21-22 January 1969, National Academy of Sciences National Research Council, Washington, D. C. (1969).
- 277. HELD, W. F. Food equipment specifications and procurement. In Minutes of Meeting, Committee on Food Service Equipment, Advisory Board on Military Personnel Supplies, Division of Engineering, 21-22 January 1969, National Academy of Sciences National Research Council, Washington, D. C. (1969).
- 278. McCORMACK, M. E. Current exploratory and engineering development and production engineering. In Minutes of Meeting, Committee on Food Service Equipment, Advisory Board on Military Personnel Supplies, Division of Engineering, 21-22 January 1969, National Academy of Sciences National Research Council, Washington, D. C. (1969).

Technical Reports

- 279. BURSE, R. L., and W. D. CAHILL. Comfort and stability ratings for LINCLOE helmet and suspension systems compared to those for standard items. 69-3-PR, July 1968 (AD 851167).
- 280. , W. D. CAHILL, and E. P. SUMMERS. Comfort and stability ratings for prototype LINCLOE titanium helmet system. 69-20-PR, August 1968 (AD 679031).
- 281. CROUT, P. D., M. N. PILSWORTH, JR., and H. J. HOGE. Response of polymers to tensile impact. 1. An integral-equation, successive-substitution solution for use in digital computers, and its application to a linear elastic model. 69-18-PR, July 1968 (AD 682714).
- 282. GREENBERGER, H., and A. M. KAPLAN. Rot-resistance of cotton/nylon blends. 69-27-PR, September 1968 (AD 676825).
- 283. McGINNIS, J. M. Acceptability of carrying devices of standard and experimental duffel bags. 69-40-PR (ETT-8), September 1968 (AD 688583).
- 284. Evaluation of Army aircrew protective armor in Vietnam. 69-79-PR (EPT-9), June 1969.
- 285. PIONEERING RESEARCH LABORATORY. Seventeenth conference on prevention of microbiological deterioration of military materiel. 69-85-PR, June 1969 (AD 855623).
- 286. Sixteenth conference on prevention of microbiological deterioration of military materiel. 68-69-PR, June 1968 (AD 835564).
- 287. TANENHOLTZ, S. D. Research on acoustical problems of the military: A review and future aspect. 69-44-PR, October 1968 (AD 680165).

Journal Articles

- 288. BALL, D. H., F. A. CAREY, I. L. KLUNDT, and L. LONG, JR. Apiose II. 1,2:3,5-Di-Q-isopropylidene-α-D-apio-D-apio-D-furanose and steroselective syntheses of 1,2-Q-isopropylidene-3-decxy-α-D-apio-L-furanose and 1,2-Q-isopropylidene-3,5-anhydro-α-D-apio-L-furanose. Carbohydrate Res., 10:121 (1969).
- 289. , and F. W. PARRISH. Sulfonic esters of carbohydrates.

 Part I. Advances in Carbohydrate Chem., 23:233 (1968).
- 290. BARTOSHUK, L. M. Water taste in man. Perception and Psychophys., 3:69-72 (1968).
- 291. BRANNON, D. R., H. BOAZ, B. J. WILEY, J. MABE, and D. R. HORTON.
 Hydroxylation of some dehydropabietanes with Corticium sasakii.
 J. Org. Chem., 33:4462-4466 (1968).
- 292. DARBY, R. T., E. G. SIMMONS, and B. J. WILEY. A survey of fungi in military aircraft fuel supply system. Intern. Biodeterioration Bull., 4(1):39-41 (1968).
- 293. FORBES, T. W., R. F. PAIN, D. W. BLOOMQUIST, and F. E. VANOSDALL. Low contrast and standard visual acuity under mesopic and photopic illumination. J. Safety Res., 1:5-12 (1969).
- 294. GRAVES, P. Spermatophores of the Blattaria. Ann. Entomol. Soc. Am., 62(3):595 (May 1969).
- 295. HALFORD, M. H., D. H. BALL, and L. LONG, JR. Methyl 2,3-0-iso-propylidene-4-thio-β-D-furanisode; a branched-chain 4-thioaldo-furanose. Carbohydrate Res., 8:363 (1968).
- 296. D. H. P^LL, and L. LONG, JR. 1-Acetyl-t-3,t-4isopropylidenedeoxy-c-4-hydroxymethyl-r-2-methoxypyrrolidene:
 A branched-chain sugar with nitrogen as the ring hetero-atom.
 Chem. Communications, p. 255 (1969).

Journal Articles (continueà)

- 297. HEARNS, J. F., and S. M. MOSS. Effect of method payoff on the detection of targets in a visual search task. J. Exp. Psychol., 78(4):569-573 (1968).
- 298. HOFF, L. A., R. L. GENTILE, and H. L. JACOBS. Effects of food deprivation in irtake of quinine adulterated diets. Fed. Proc., 28:588 (1969).
- 299. JACKSON, C. R., and E. G. SIHMONS. Blight of Richardia scabra caused by Alternaria multirostrata sp. n. Phytopath, 58(8): 1139-1142 (1968).
- 300. JACOBS, H. L. Neuropharmacological factors in the regulation of food and water intake. Ann. N. Y. Acad. Sci., 157(2):977-985 (1969).
- 301. , and K. N. SHARMA. Taste versus calories: Sensory and metabolic signals in the control of food intake. Ann. N. Y. Acad. Sci., 157(2):1084-1125 (1969).
- 302. KASHNOW, R. A., and K. A. McCARTHY. Phonon scattering in magnesium fluoride. J. Phys. Chem. Solids, 30:813 (1969).
- 303. KRONMAN, M. J. Similarity in backbone conformation of egg white lysozome and bovine α -Lactalbumin. Biochem. and Biophys. Res. Comm., 33:535 (1968).
- 304. LANGMUIR, M. E., L. DOGLIOTTI, E. D. BLACK, and G. WETTERMAK. Bronsted catalysis of the fading reaction of flash-produced transients from 2,6-dinitrotoluene. J. Am. Chem. Soc., 91:2204 (1969).
- 305. MERRITT, C., JR., M. L. BAZINET, and W. G. YEOMAN. Consideration of parameters for coupling gas chromatographs to mass spectrometers. J. Chromatog. Sci., 7:122 (1969).
- 306. MONREAL, J., and E. T. REESE. Lysis of living Candida utilis cells by enzymes of micromonospora. Arch. Biochem. and Biophys., 126:960-1 (1968).

Mary Mary Mary

Journal Articles (continued)

- 307. MONTAGUE, W. W., and H. O. KIESS. The associability of CVC pairs. J. Exp. Psychol., 78(2):2 (1968).
- 308. PARRISH, F. W., R. C. CHALK, and L. LONG, JR. Selective reactions of sulfonic esters of carbohydrates on alumina. J. Org. Chem., 33:3165 (1968).
- 309. PENNIMAN, F. G., R. J. GOFF, and J. M. DAVIES. A pulse shaper for the Natick Laboratories solar furnace. Solar Energy, 12:85-94 (1968).
- 310. REED, R. I., and D. H. ROBERTSON. Mass Spectrometry, Part 1, The spectrometer. Chemistry, 42(6):7 (1969).
- 3)1. REESE, E. T. Microbial decomposition of soil poysaccharides. Pontif. Acad. Sci., 32:535-582 (1969).
- 312. , and A. MAGUIRE. Purine ribonucleosidase g from Aspergillus foetidus. J. Bacteriol., 86:1696 (1968).
- 313. , and A. MAGUIRE. Surfactants as stimulants of enzyme production by microorganisms. Appl. Microbiol., 17:242-45 (1969).
- 314. , A. MAGUIRE, and F. W. PARRISH. Benzoyl esterases of fungi. Can. J. Biochem., 47:511-516 (1969).
- 315. ROTH, L. M. A new species of Galiblatta from Brazil (Blattaria, Blaberidae). Psyche, 75(3):249 (1968).
- 316. The evolution of male tergal glands in the Blattaria. Ann. Entomol. Soc. Am., 62(1):176 (1969).
- 317. _____, and A. B. GURNEY. Neotropical cockroaches of the Epilampra abdomennigum complex; a classification of their systematics (Dictyoptera, Blattaria). Ann. Entomol. Soc. Am., 62(3):617 (1969).

Journal Articles (continued)

- 318. SIMMONS, E. G. Perfect states of Stemphylium. Mycologia, 61(1):1-26 (1969).
- 319. SMITH, L. W. History of mosquito occurrence in Missouri. Mosquito News, 29(2):220-222 (1969).
- 320. and J. J. PRATT, JR. The occurrence of Trogoderma parabile Beal in Massachusetts. Coleopterist's Bull. (Spring, 1969).
- 321. TREININ, A., and E. HAYON. Spectroscopic observations of the azide radical in solution. J. Chem. Phys., 50:508 (1969).
- 322. WALSH, J. T., R. E. KRAMER, and C. MERRITT, JR. Evaluation of chromatography column parameters by digital computers. J. Chromatog. Sci., 7:348 (1969).
- 323. K. J. McCARTHY, and C. MERRITT, JR. Studies on behavior of detectors under conditions of programmed cryogenic temperature gas chromatography. J. Gas Chromatog., 6:416 (1968).
- 324. WHARTON, D. R. A. Extrusion of rissue for efficient production of impression spears. Stain Tech., 43(6):342-343 (1968).
- 325. Lysozyme retention by cockroach Periplaneta americana L. Science, 63:183-184 (1969).
- 326.

 , and J. E. LCLA. Lysozyme action on the cockroach Periplaneta americana, and its intracellular symbionts.
 J. Insect Physiol., 15:14 (1969).
- 327. , and J. E. LOLA. Lysozyme action in the cock-roach Blood changes. J. Insect Physiol., 15:10 (1969).
- 328. J. E. LOLA, and M. L. WHARTON. Growth factors and population density in the American cockroach Periplaneta americana. J. Insect Physiol., 14:637-653 (1968).

Technical Papers

- 329. DATEO, G. P. Liquid crystals, properties and applications. Seminar, U. S. Army Natick Laboratories, Natick, Mass., 8 November 1968.
- 330. DiPIETRO, C., D. H. ROJERTSON, J. T. WALSH, and C. MERRITT, JR. Determination of the amino acid composition of proteins and peptides by pyrolysis-gas chromatography and mass spectrometry. Northeast Region, American Chemical Society, Boston, Mass., 14-15 October 1968.
- 331. ETTLINGER, M. G. All about mustard. Seminar, U. S. Army Natick Laboratories, Natick, Mass., 10 May 1969.
- 332. HOFF, L. A. The effects of metabolic alteration on intake of equally preferred sucrose and saccharin solutions. Southern Society for Philosophy and Psychology, Miami, Fla., 4 April 1969.
- 333. JACOBS, H. L. Current trends in the biological control of appetite. Research and Development Associates, West Point, N. Y., April 1969.
- 334. KAPLAN, A. M. The control of biodeterioration of materials Philosophy. First International Biodeterioration Symposium, Southampton, England, 9-14 September 1968.
- 335. KASHNOW, R. A. Phonon scattering in magnesium fluoride. Tufts University, Medford, Mass., September 1968; Lowell Polytechnic Institute, Lowell, Mass., October 1968.
- 336. The thermal conductivity of magnesium fluoride in the temperature range 1°K to 80°K. Conference on Thermal Conductivity, Purdue University, Lafayette, Ind., October 1968.
- 337. KRAMER, R. E., J. T. WALSH, and C. MERRITT, JR. On-line qualitative analysis of gas chromatographic eluates using a digital computer. Northeast Region, American Chemical Society, Boston, Mass., 14-15 October 1968.

Technical Papers (continued)

- 338. LAURIE, W., and D. H. ROBERTSON. Some mass spectral interpretations of substituted benzthiadiazolenes. Symposium, Mass Spectrometry Group, University of Sheffield, Sheffield, U. K., September 1968.
- 339. IEVINSON. H. S. Bacterial spores. Science Seminar, Lincoln-Sudbury Regional High School, Sudbury, Mass., December 1968.
- 340. and M. T. HYATT. Activation of Bacillus megaterium spore germination. Spore IV Conference, University of Illinois, Urbana, Ill., October 1968.
- 341. , and M. T. HYATT. Activation, germination, and out-growth of Bacillus megaterium spores at various temperatures: a search for thermal anomalies in water structure. American Society for Microbiology, Miami Beach, Fla., May 1969.
- 342. LOCKHART, J. M. The effect of ambient temperature on the flicker-fusion threshold. Eastern Psychological Association, Philadelphia, Pa., April 1969.
- 343. McCORMICK, N. G. Applications of an equation describing the kinetics of spore germination. Seminar, Oregon State University. Corvallis, Ore., April 1969.
- 344. MERRITT, C., JR. The analysis of food volatiles by means of combined gas chromatography and mass spectrometry. Seminar, University of Maryland, College Park, Md., April 1969.
- 345. M. L. BAZINET, and W. G. YEOMANS. Consideration of parameters for coupling gas chromatographs to mass spectrometers. International Symposium on Advances in Chromatography, Las Vegas, Nev., January 1969.
- 346. PERINI, F. 5-Carbalkoxyhydantoins: Their chemistry and condensation with amidenes. Seminar, U. S. Army Natick Laboratories, Natick, Mass., 25 October 1968.

Construction of the state of th

Technical Papers (continued)

- 347. REED, R. I., and D. H. ROBERTSON. Naive analysis of the structure of alkanes. Conference on Mass Spectrometry and Allied Topics, American Society for Testing Materials (ASTM) Committee E-lu, Dallas, Tex., Hay 1969.
- 348. REESE, E. T. Biochemistry of cellulases. Seminar, University of Nassachusetts, Amberst, Mass., 23 April 1969.
- Symposium on cellulose solid wastes. U. S. Department of Health, Education and Weifare, Cincinnati, 0., 24 March 1969.
- 350. Symposium on cellulase and its application. American Chemical Society, Atlantic City, N. J., September 1968.
- 351. ROTH, L. M. Chromosomes of the pycnoscelus complex. Entomological Society of America, Dallas, Tex., December 1968.
- 352. Cockroach evolution. Seminar, U. S. Army Natick Laboratories, Natick, Mass., May 1969.
- Reproduction in cockroaches. University of Illinois, Urbana, Ill., December 1968.
- 354. SASSAMAN, W. A., and C. MERRITT, JR. Carbon and hydrogen determination in ultramicro samples using gas chromatography.

 Northeast Region, American Chemical Society, Boston, Mass.,
 14-15 October 1968.
- 355. SIMMONS, E. G. Perfect states of <u>Stemphylium</u>. Mycological Society of America, Columbus, O., 4 September 1968.
- 356. SOUSA, J. A. Fast reactions and primary processes in chemical kinetics. Benzene Ring Society, Merrimack College, Andover, Mass., December 1968.
- 357. WALSH, J. T., R. E. KRAMER, and C. MERRITT, JR. Evaluation of chromatography column parameters by digital computers. International Symposium on Advances in Chromatography, Las Vegas, Nev., January 1969.

Technical Papers (continued)

358. WHITE, R. M. The utilization of military anthropometry for aircraft cockpit design. Symposium, NATO-AGARD Avionics Panel on Problems of the Cockpit Environment, Amsterdam, The Netherlands, November 1968.

Book Chapters

- 359. CARWILE, L. C. K., and H. J. HOSE. Thermal conductivity of vitreous silica: Selected values. In Thermal Conductivity, Proc. Seventh Conference, Nat'l Bur. Stds. Special Pub., 302:59-76 (September 1968).
- 360. KAPLAN, A. M. The control of biodeterioration by fungicides Philosophy. In Biodeterioration of Materials, pp. 196-204, Elsevier Publishing Cc., London, England (1968).
- 361. KASHNOW, R. A., and K. A. McCARTHY. The thermal conductivity of magnesium fluoride in the temperature range 1°K to 80°K.

 In Thermal Conductivity, Proc. Eighth Conference, C. Y. Ho and R. E. Taylor (edit.), p. 867, Plenum Press, Inc., New York, N. Y. (1969).
- 362. LEVINSON, H. S., and M. T. HYATT. Activation of Bacillus megaterium spore germination. In Spores IV, L. L. Campbell (edit.), American Society for Microbiology, Washington, D. C. (May. 1969).
- 363. MERRITT, C., JR. Chemical identification of gas chromatographic fractions. In Ancillary Techniques of Gas Chromatography, Chapter 9, L. S. Ettre and W. H. McFadden (edit.), Interscience Publishers, New York, N. Y. (1969).
- 364. , M. L. BAZINET, and W. G. YEOMANS. Consideration of parameters for coupling gas chromatographs to mass spectrometers. In Advances in Chromatography, A. Zlatkis (edit.), Preston Technical Abstracts Co., Evanston, Ill., pp. 209-210 (1969).

Book Chapters (continued)

- 365. MERRITT, C., JR., J. T. WALSH, R. E. KRAMER, and D. H. ROBERTSON.

 Digital data acquisition and computer identification of gas
 chromatographic eluates. In Gas Chromatography, 1968, C. L. A.
 Harbourn (edit.), Elsevier Publishing Co., London, England,
 pp. 338-345 (1969).
- 366. MORGANE, P. J., and H. L. JACOBS. Hunger and satiety. In World Review of Nutrition and Dietetics, 10:100-213, Karger, New York, N. Y. (1969).
- 367. WALSH, J. T., R. E. KRAMER, and C. MERRITT, JR. Evaluation of chromatography column parameters by digital computers. In Advances in Chromatography, A. Zlatkis (edit.), Preston Technical Abstracts Co., Evanston, Ill., pp. 256-259 (1969).

osposication da anglasticación appealachampl

INDEX TO AUTHORS (Entry Number)

Akrep, J. P. 244, 258
Alesi, A. L. 62
Altgelt, R. E. 37
Anderson, E. E. 133, 210
Andrews, R. D. 61
Anellis, A. 147, 158, 159, 214
Anstey, R. L. 122, 123
Antkowiak, H. E. 38
Backer, S. 257
Baker, L. J.160, 228

THE THE PROPERTY OF THE PROPER

Baker, L. J.160, 228 Baker, P. S. 236 Balcius, J. F. 232 Ball, D. H. 288, 289, 295, 296 Ball, J. T. 112 Barnes, W. J. 83 Barron, E. R. 62, 68, 71 Bartoshuk, L. M. 290 Bazinet, M. L. 305, 345, 364 Benedict, R. P. 36 Bennett, J. G. 50, 51, 52 Bingnam, E. 110 Black, E. D. 304 Bloomquist, D. W. Boaz, H. 291 Brannon, D. R. 291 Breslouf, L. 205 Breyer, J. D. 245, 252 Brockmann, M. C. 161, 162 Brown, E. J. 53 Brown, T. E. 130 Brownell, G. L. 230, 232 Brynjolfsson, A. 168, 229 Budnick, M. L. 259 Burns, M. 71, 81 Burse, R. L. 279, 280

Cahill, W. D. 279, 280 Campbell, R. J. 260, 274 Carey, F. A. 288 Carson, J. H. 155 Carwile, L. C. K. 359 Chabot, R. S. 239 Cnakoian, G. 54 Chalk, R. C. 308 Cohen, G. 63 Cohen, J. S. 188, 262 Cooper, R. D. 230, 232 Criley, R. L. 39 Critcher, J. L. 43 Crout, P. D. 281

Dalrymple, P. C. 124
Darby, R. T. 292
Dateo, G. P. 329
Davidsohn, W. 89, 30, 92, 93, 94
Davies, J. M. 309
Decareau, R. V. 246, 247, 248, 249
250, 275, 276
Delasanta, A. C. 88

DeSantis, G. 55
Dietz, A. E. 239
DiPietro, C. 330
Dogliotti, L. 304
Donnelly, R. 64
Drake, B. 187
Driver, M. G. 163, 210
Dungan, A. L. 33, 34, 35
Dusablon, L. V. 65, 66, 107
Dymsza, H. A. 131

Ehlers, R. W. 80 El-Bisi, H. M. 139, 140, 164, 214, 235 Ettlinger, M. G. 331

Falabella, G. 56, 57
Falcone, J. F. 41
Feeherry, F. 213
Fegley, R. S. 111
Feldmann, F. W. 74
Fiori, F. 252, 254, 255, 256, 263
Fisher, G. E. 112
Flanagan, J. H. 23, 24, 25
Flentge, R. L. 273
Forbes, T. W. 293
Foster, J. E. 49

Hollies, N. R. S. 67 Fourt, L. 67 Hollis, F., Jr. 13%, 135 Fox, M. 251 Horton, D. R. 291 Freeston, W. D. Jr. Howe, G. M. 112 Friend, W. a. 42 Hu, K. H. 245, 252, 254, 255, 256 Fruin, J. T. 165 261, 263 Hyatt, M. T. 340, 341, 362 Gardner, B. W. Jr. 132, 163 Gatlin, C. I. 68 Gauvin, G. A. Iacono, V. D., Jr. 70, 99 Gentile, R. L. 298 Jackson, C. R. 299 1, 2, 3, 4, 5, 6, Gerace, F. J. Jacobs, H. L. 298, 300, 301, 333, 7, 8, 9, 10 366 Gerard, M. 236 James, H. 11, 12, 13, 14, 15, 16, 17 Ghose, T. K. 166, 167 Gilbert, S. 205 Jarboe, J. K. 153, 154 Jarrett, R. D. 168, 175 Gionfriddo, M. P. Jeffers, J. 139, 206 Goff, R. J. 309 Johansson, B. 187 Goldman, B. J. 127 Johnson, E. L. 184 Goodrick, T. F. 55 Gorfien, H. 133 Johnson, Kr. 133, 169, 210 Graves, P. 294 Jones, E. 213 148, 177, 178, 179, Josephson, E. S. Greenberger, M. 282 180, 181, 182, 183, Corney, A. B. 317 184, 231 Halford, M. H. 295, 296 Judge, T. H. Halik, J. 135 Halliday, J. W. 168, 176 Kahan, R. S. 185 4ô Kane, R. L. 240 Hannon, G. L. Kaplan, A. M. 282, 334, 360 Harlan, J. W. Harris, N. E. Kaplow, M. 135 Hayon, E. 321 Kapsalis, J. G. 163, 186, 187 129 Kashnow, R. A. 303, 334, 335, 361 Healey, J. R. 297 Kaufman, F. L. 136 Hearns, J. F. Kennedy, S. J. 86, 100, 101, 102, 103 148, 156, 170, Heiligman, F. 171, 228 Kenyon, E. M. 149, 150, 151, 155 Held, W. F. 277 Kiess, H. O. 307 Helmer, R. L. 144, 145, 157 Killoran, J. J. 188, 262 Henick, A. S. 206 King, F. J. 155 Henry, M. C. 69, 89, 90, 92, Klicka, M. V. 152, 169, 174, 189, 190, 93, 94 191, 192, 193, 194, 195, 196, 238 Herz, M. L. 95, 98 Hill, R. S. Klose, R. 135 74 Hinnergardt, L. C. 143, 144, 217 Klundt, I. L. 288 Hoff, L. A. 298, 332 Kostick, J. A. 167 Hoge, H. J. 281, 359 Kramer, R. E. 322, 337, 357, 365, 367 Hollender, H. A. 131, 152, 172, Kronman, M. J. 303

Kydd, A. R. 72

173, 174, 237

Lacher, J. R. 77 Laine, N. 137 Laliberte, B. R. 92 Lamber, C. F. 71, 81 Lampi, R. A. 253, 254, 255, 256, 263, 271 Landers, M. K. 156 Langmuir, M. E. 304 Larson, R. E. 72 Lassow, G. B. 112 Lastnik, A. L. 73, 87 Laurie, W. 338 Learson, R. J. 155 Lee, F. H. 197 Lee, H. H. 118 2Cô Levasseur, L. A. Levelle, E. F. 31 339, 340 Levinson, h. S. 341, 362 Linekin, D. M. 230, 232 Lockhart, J. M. 342 Lola, J. E. 326, 327, 328 Long, F. E. 142 Long, L., Jr. 288, 295, 296, 303 Luyet, B. J. 138 Mabe, J. 291 Mabrouk, A. F. 153, 154 Macek, P. J. 58, 59 Maguire, A. 312, 313, 314 Mandels, M. J. 139, 140, 198, 199, 233, 234 Marshner, R. L. 42 Martin, T. G, 204 Martinez, A. L. 45 Matthern, R. 140 May, J. M. 126 McArthur, L. F. 74 McCarthy, K. A. 302 323, 361 McCarthy, K. J. McCormack, M. E. 278 McCormick, N. G. 343 McGinnies, W. G. 127 McGinnis, J. M. 283, 284 McKinney, F. E. 236 McManus, L. R. 65

Labadan, R. M. 118

Lachance, P. A. 152

McQuade, A. J. 104, 105 Mehrlich, F. P. 200, 201, 202, 203 Hendelsonn, J. M. 155 Merritt, C., Jr. 305, 322, 323, 330, 337, 344, 345, 354, 357, 363, 364, 365, 367 Hiles, T. D. 88 Mills, R. R., Jr. Moak, E. L. 239 Monego, C. J. 241, 257 Monreal, J. 306 Hontague, W. W. 307 Morgane, P. J. 366 Moss, S. M. 297 Mulvey, P. 204 Nebesky, E. A. 264, 265, 266, 267 Niedringhaus, T. E. 125 Oates, R. W. 44 O'Connor, E. M. 153, 154 Oesterling, J. F. 18, 26, 27, 28 Ogden, L. V. 145 Olsen, H. W. 75 80 Orroth, S. A., Jr. O'Sullivan, D. J. 268 Pain, R. F. 293 Pant, B. C. 69, 89 Park, A. F. 62, 76 Park, J. D. 77 Parrish, F. W. 289, 308, 314 Patterson, A. G. 42

Pant, B. C. 69, 89
Park, A. F. 62, 76
Park, J. D. 77
Parrish, F. W. 289, 308, 314
Patterson, A. G. 42
Pavey, R. L. 141
Paylore, P. 113, 114, 127
Payne, G. O., Jr. 142
Payne, R. S., Jr. 43
Penniman, F. G. 309
Perini, F. 346
Pilsworth, M. N., Jr. 281
Pober, Z. 205
Pooley, R. W. 78
Pope, C. J. 79
Porter, W. L. 206
Powell, A. S. 80
Pratt, J. J., Jr. 320
Prell, P. A. 207

Previte, J. J. 235 Proffitt, R. B. 239 Prosser, R. A. 107

Rafert, W. 36 Rahman, A. R. 208, 209, 210, 243 Ramsley, A. O. 91 Rauch, A. C. 211 Reed, L. J. 112 Reed, R. I. 310, 347 Reiff, H. 92 Ripperger, E. A. Rizzo, F. J. Robertson, D. H. 310, 330, 338, 347, 365

Robey, W. M. 245 Kobison, W. C. 120, 128 Rodzen, R. A. 81 Roepcke, L. A. Rohs, C. S. 78 Ronsivalli, L. J. 155 Ross, E. W., Jr. 19, 20, 21, 22, 29 315, 316, 317, Roth, L. M. 351, 352, 353 Rowley, D. B. 159, 212, 213, 214

Rubinate, F. J. 269, 270, 271 Runkles, M. V. 43 Rust, L. W. 72

Sassaman, W. A. 354 Schamadan, J. L. 68 Schlup, E. T. 157 Schneider, N. S. 66, 107 Schoppee, M. M. 241 Schulz, G. L. 271, 272, 273 Scribano, F. C. 81 Sebring, R. E. 241 Sharma, K. N. 301 Sharon, D. 115 Shaw, A. D., III Shea, K. G. 184 Shopalovich, P. 47 Siebert, W. 93, 94 Sieling, D. H. Silva, W. F. 75 Simmons, E. G. 292, 299, 318, 355 Simon, M. 156

Sinnhuber, R. O. Smith, I. R. 39 Smith, L. W. 319, 320 240, 242 Smith, R. S. Snell, E. W. **±07** Snyder, 0. P. 214 Snygg, B. G. 213 Sousa, J. A. 356 66, 82, 96, 108 Spano, L. A. Spiegl, C. J. 142 Spracklin, B. W. Stapler, J. T. 83 Stinchfield, R. M. Stoewsand, G. S. 131 Summers, E. P. 280 Swain, D. S. 76

Tanenholtz, S. D. 68, 287 Themas, M. H. 215 Thompson, M. H. 146 Thompson, W. F. 116, 117, 121 Travis, B. V. 118 Treinin, A. 321 Tuomy, J. M. 143, 144, 145, 157, 216, 217

as the commence of the set of the

Umina, A. P. 218

Vanosdall, F. E. 293 Vickery, E. D. 48 Vittemberger, B. M. 95, 98 Votta, F., Jr. 66, 96

Waldron, E. T. 84, 97

Walker, G. C. 216 Walsh, J. T. 322, 323, 330, 337, 357, 365, 367 Waters, M. E. 146 Weber, J. 199, 233 Weiner, L. I. 109 Werkowski, S. J. 79, 147, 242 Westbrook, J. H. 119 Westcott, D. E. 169, 219, 220, 221 Wettermak, G. 304 Wharton, D. R. A. 324, 325, 326, 327, 328 Wharton, M. L. 328

White, R. M. 358

White, V. 222, 223, 224
Wible, R. C. 49
Wierbicki, E. 225, 226, 227, 228, 230
Wiley, B. J. 291, 292
Winslow, E. C. 95

Yelland, W. E. C. 83 Yeoman, W. G. 305, 345, 364 Yost, C. A. 45 Young, R. B. 42 Yu, T. C. 156

Zemlin, J. C. 85

Security Classification						
DOCUMENT CO	NTRGL DATA - R &	D				
(Security classification of title, body of abstract and index						
ORIGINATING ACTIVITY (Corporate author)		24. REPORT SECURITY CLASSIFICATION				
US Army Natick Laboratories		Unclassified				
Natick, Massachusetts 01760	į.	2b, GROUP				
	<u>]</u>					
REPORT TITLE						
BIBLIOGRAPHY OF TECHNICAL PUBLICATION	NO AND DADEDO					
DIDDIOGRAM III OI INCIMICAN IODDICATIO	NO MID I MILINO					
DESCRIPTIVE HOTES (Type of report and inclusive dates)			_			
July 1968 - June 1969						
AUTHOR(5) (First name, middle initial, last name)						
REPORT DATE	74. TOTAL NO. OF	PAGE\$	7b. NO. OF REFS			
July 1969	50		<u> </u>			
L CONTRACT OR GRANT NO.	98. ORIGINATOR'S	REPORT NUM	BER(\$)			
		70.1				
5. PROJECT NO.		70-1				
:.	ON OTHER REPOR	T NOIS) (4mm a	ther numbers that may be neel goed			
••	this report)	i NO(3) (Ally 6	mer numbers mat may be serigied			
1						
D. DISTRIBUTION STATEMENT						
o. DISTRIBUTION STRIEMENT						
This document has been approved for	public release a	and sale;	its distribution			
is unlimited.	-	-				
1. SUPPLEMENTARY NOTES	12. SPONSORING M	LITARY ACT	VITY			
	1					
		U. S. Army Natick Laboratories				
	Natick, Ma	assachuse	tts 01760			
3. ABSTRACT	i					
,						
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		•				
A bibliographic listing of tech	nical baptication	ons and p	apers by the			
personnel of the U. S. Army Natick L	aboratories and	its cont	ractors for the			
period July 1968 through June 1969.						
•	7					
			·			
			·			

DD FORM 1473 REPLACES DO FORM 1473, 1 JAN 64, WHICH IS

Unclassified
Security Classification

ar in the contract of the cont

The state of the s

Unclassified

Unclass								
Security Clas	sification							
14.	KEY WORDS	LIN	LINK A		LINK B		LINK C	
	AE. AORDS	ROLE	WT	ROLE	WT	ROLE	WT	
	KEY WORDS	L		1				

Unclassified
Security Classification